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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/086,775	03/01/2002	Paul Joseph Berlowitz	JJD-0101	8963
27810	7590	05/15/2008		
ExxonMobil Research & Engineering Company			EXAMINER	
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Annandale, NJ 08801-0900			ART UNIT	PAPER NUMBER
			1797	
			MAIL DATE	DELIVERY MODE
			05/15/2008 PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.



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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/086,775
Filing Date: March 01, 2002
Appellant(s): BERLOWITZ ET AL.

Joseph J. Allocca
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed February 14, 2008 appealing from the Office action mailed September 24, 2007.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1, 9 and their dependents are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.
3. Appellant has amended the claims to include the range 53 to 91.5%, as it relates to reduction of particulate emissions.

Appellant states that the two examples are the same composition but that they are run at two different loads. Appellant argues that the data in the specification supports the claimed range.

The examiner respectfully disagrees with Appellant's argument. There is nothing in the specification to support this range. Data at two different loads do not provide for a range. Appellant has only shown two data points and provides no support in the specification for any points in between 53 and 91.5

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 5-10 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 9963025.

WO teaches a hydrocarbon in water emulsion comprising diesel fuel or Fischer-Tropsch derived fuel, water, alcohol and a surfactant. The droplets are less than 10 microns in size (see abstract; page 3, lines 20-22; page 7, lines 22-32; page 23, lines 19-23). WO teaches that the fuel emulsion relates to reduced nitrogen oxide and particulate emissions (see page 2, lines 26-29). The amount of hydrocarbon is from 43-70% by weight and the amount of water is from 28-55 % by weight (see col. 3, lines 23-31). The amount of surfactant is about 0.5% (see Examples). WO teaches the limitations of the claims other than the differences that are discussed below.

In the first aspect, WO differs from the claims in that WO fails to teach how the fuel of its invention compares to Swedish Class I Diesel Fuel. However, no unobviousness is seen in this difference because WO teaches a fuel that contains all of the claimed components that Appellant has set forth in an emulsified fuel composition, and WO '025 uses the fuel in the same environment as Appellant. Therefore, it would have been reasonable to expect that the emulsified fuel of WO would have reduced particulate emissions as compared to the Swedish fuel, absent evidence to the contrary.

In the second aspect, WO differs from the claims in that it fails to teach the claimed particle size. However, WO teaches that the droplets are 10 microns or less, and this teaching suggests a particle size of 0.1 to about 1.0 micron. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have optimized the particles size through routine experimentation for the best results. As to optimization results, a patent will not be granted based upon the optimization of result effective variables when the optimization is obtained through routine experimentation unless there is a showing of unexpected results which properly rebuts the *prima facie* case of obviousness. See *In re Boesch*, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980). See also *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936-37 (Fed. Cir. 1990), and *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

In the third aspect, WO differs from the claims in that it does not specifically teach the viscosity of the fuel. However, since WO teaches an emulsified fuel containing the same components that are within the same range as Appellant, it would have been reasonable to expect that the viscosity of the fuel emulsion would be the same or similar to that of the present invention, absent evidence to the contrary.

(10) Response to Argument

Appellant argues that the specification does support the range of 53% to 91.5% as it relates to the reduction of particulate emissions. Appellant explains the data of Tables 2 and 3. Appellant argues that the results of 53% and 91.5% lower emissions than Swedish Class I Diesel Fuel was secured by running the engine at a low and

medium load and that the skilled artisan would not expect such a reduction in particulate emissions to fall below a line drawn between 53% and 91.5%. Appellant argues that only by evaluation at different loads is it possible to see the extent of particulate emissions reduction.

Appellant is comparing the same fuel at different loads to obtain the claimed percentages and by doing so is claiming a range that does not exist. It is clear from the data that there is a 53% reduction at a low load and a 91.5% reduction at a medium load; however, there is no support for any value between these data points and the data points are shown as individual values and not as a range. Furthermore, there is nothing in the specification to suggest that there is a range of emission reduction under any conditions.

Appellant argues that the fuel composition which is used in Example 1 and is used to secure the data has an emulsion particle size of 0.7 microns on average with 95% being smaller than 1 micron. Appellant argues that WO uses a macroemulsion where the emulsion particle size is 10 microns or less. Appellant argues that there is nothing in WO that teaches or suggests to the skilled artisan to investigate or test emulsions having particle sizes of 0.1 to 1 micron for differences in particulate emissions or NO_x emissions.

WO is in the same field of endeavor as the present invention. WO sets forth at page 1, lines 5-9 and page 2, lines 26-29 that its invention relates to reduced NO_x and particulate emissions fuel compositions. WO teaches that it desires to produce a stable

emulsified fuel and to prepare a fuel wherein the emulsion particles are 10 micron or less, which encompasses 0.1-1 micron, and is well within the scope of the fuel composition of WO. While WO teaches that its emulsified fuel is a macroemulsion, it should be pointed out that the range for the particle size set forth in the present claims includes particles sizes that result in macroemulsions. Also, it should be pointed out that Appellant is not specifically claiming a microemulsion nor does the specification disclose the emulsified fuel as a microemulsion.

With respect to the present invention reducing the particulate emissions beyond the level demonstrated in the Example of WO, it should be pointed out that a reference is relied upon for all that it teaches and is not limited to the examples therein. In the instant case, WO clearly discloses emulsified fuels that are within the scope of the present invention and WO clearly envisioned emulsified fuels wherein the particle of the emulsion overlaps the particle size of the present invention. Appellant's showings are not commensurate in scope with the claims. Claims 1 and 10 are devoid of proportions and are generic with respect to the Fischer-Tropsch fuel and the nonionic surfactant. Claim 9 is generic with respect to the Fischer-Tropsch fuel and the surfactant. Therefore, the examiner cannot ascertain if the level of particulate emissions reduction obtained in the examples of the present invention constitutes unexpected results.

Appellant argues that it has shown in the present invention that Swedish Class I Diesel and unemulsified Fischer-Tropsch diesel behave substantially similar in terms of particulate emissions. Appellant argues that since WO compares its emulsified Fischer-Tropsch fuel against unemulsified Fischer-Tropsch fuel that such a comparison is

comparable to comparing the emulsified Fischer-Tropsch fuel of WO against Swedish Class I Diesel fuel.

The examiner finds no example in WO wherein the emulsified Fischer-Tropsch is compared to unemulsified Fischer-Tropsch fuel. WO teaches at page 23, line 19 through mid page 24 that standard diesel fuel is compared to fuel emulsions of CARB diesel, RME and Fischer-Tropsch diesel.

Appellant argues that at best 6 to 44% reduction in particulate emissions for the WO fuel versus unemulsified Fischer-Tropsch fuel is achieved as compared to 53-91.5% in the present invention. Appellant argues that there is nothing in WO to suggest that reducing the particle size of the emulsion to a substantially uniform size in the range of about 0.1-1.0 micron would result in the unexpected further lowering of the particulate emissions.

Since WO does not compare the emulsified Fischer-Tropsch fuel to an unemulsified Fischer-Tropsch fuel or a Swedish Class I Diesel, Appellant's conclusions are in error and have mischaracterized the examples set forth in WO.

Appellant argues that with respect to claims 10 and 12, there is nothing in WO to suggest that any benefit would have been or could have been obtained by reducing the hydrocarbon particle size. Appellant argues that teaches a macroemulsion which is different from that of the present invention.

The examiner maintains that Appellant has not shown superior or unexpected results with the use of the claimed particle size and as Appellant recognizes, WO teaches that the particles of its invention may be less than 10 microns. As stated

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above, the range of the particle size of WO encompasses that of the present invention and renders obvious the claims of the present invention.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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